

CLAIMS

What is claimed is:

1. A vocoder system comprising:
formant detection means for detecting formant characteristics of a first musical tone signal;
musical tone signal input means for inputting a second musical tone signal that corresponds to specified pitch information;
division means for dividing the second musical tone signal into a plurality of frequency bands, the respective center frequencies of which have been fixed;
setting means for setting modulation levels corresponding to each of the frequency bands based on the formant characteristics and formant control information with which the formant characteristics detected by the formant detection means are changed; and
modulation means for modulating a level of a signal of each of the frequency bands based on the modulation level set in the setting means.
2. The vocoder system cited in Claim 1, wherein the formant detection means comprises a filter.
3. The vocoder system cited in Claim 1, wherein the formant detection means comprises a Fourier transform.
4. The vocoder system cited in Claim 1, wherein the division means comprises a filter.
5. The vocoder system cited in Claim 2, wherein the division means comprises a filter.
6. The vocoder system cited in Claim 3, wherein the division means comprises a filter.
7. The vocoder system cited in Claim 1, wherein the division means comprises a Fourier transform.

8. The vocoder system cited in Claim 2, wherein the division means comprises a Fourier transform.

9. The vocoder system cited in Claim 3, wherein the division means comprises a Fourier transform.

10. The vocoder system cited in Claim 1, wherein the setting means sets the modulation levels by interpolation processing based on the formant characteristics and the formant control information.

11. The vocoder system cited in Claim 2, wherein the setting means sets the modulation levels by interpolation processing based on the formant characteristics and the formant control information.

12. The vocoder system cited in Claim 3, wherein the setting means sets the modulation levels by interpolation processing based on the formant characteristics and the formant control information

13. The vocoder system cited in Claim 4, wherein the setting means sets the modulation levels by interpolation processing based on the formant characteristics and the formant control information.

14. The vocoder system cited in Claim 5, wherein the setting means sets the modulation levels by interpolation processing based on the formant characteristics and the formant control information.

15. The vocoder system cited in Claim 6, wherein the setting means sets the modulation levels by interpolation processing based on the formant characteristics and the formant control information.

16. The vocoder system cited in Claim 7, wherein the setting means sets the modulation levels by interpolation processing based on the formant characteristics and the formant control information.

17. The vocoder system cited in Claim 8, wherein the setting means sets the modulation levels by interpolation processing based on the formant characteristics and the formant control information.

18. The vocoder system cited in Claim 9, wherein the setting means sets the modulation levels by interpolation processing based on the formant characteristics and the formant control information.

19. The vocoder system cited in Claim 1, wherein the setting means sets the modulation levels based on pitch information, the formant characteristics and the formant control information.

20. The vocoder system cited in Claim 2, wherein the setting means sets the modulation levels based on pitch information, the formant characteristics and the formant control information.

21. The vocoder system cited in Claim 3, wherein the setting means sets the modulation levels based on pitch information, the formant characteristics and the formant control information.

22. The vocoder system cited in Claim 4, wherein the setting means sets the modulation levels based on pitch information, the formant characteristics and the formant control information.

23. The vocoder system cited in Claim 5, wherein the setting means sets the modulation levels based on pitch information, the formant characteristics and the formant control information.

24. The vocoder system cited in Claim 6, wherein the setting means sets the modulation levels based on musical interval information, the formant characteristics and the formant control information.

25. The vocoder system cited in Claim 7, wherein the setting means sets the modulation levels based on musical interval information, the formant characteristics and the formant control information.

26. The vocoder system cited in Claim 8, wherein the setting means sets the modulation levels based on musical interval information, the formant characteristics and the formant control information.

27. The vocoder system cited in Claim 9, wherein the setting means sets the modulation levels based on musical interval information, the formant characteristics and the formant control information.

28. The vocoder system cited in Claim 1, wherein the setting means stores a formant change table that changes the formant non-uniformly and sets the modulation levels that correspond to each of the frequency bands based on the change table.

29. The vocoder system cited in Claim 2, wherein the setting means stores a formant change table that changes the formant non-uniformly and sets the modulation levels that correspond to each of the frequency bands based on the change table.

30. The vocoder system cited in Claim 3, wherein the setting means stores a formant change table that changes the formant non-uniformly and sets the modulation levels that correspond to each of the frequency bands based on the change table.

31. The vocoder system cited in Claim 4, wherein the setting means stores a formant change table that changes the formant non-uniformly and sets the modulation levels that correspond to each of the frequency bands based on the change table.

32. The vocoder system cited in Claim 5, wherein the setting means stores a formant change table that changes the formant non-uniformly and sets the modulation levels that correspond to each of the frequency bands based on the change table.

33. The vocoder system cited in Claim 6, wherein the setting means stores a formant change table that changes the formant non-uniformly and sets the modulation levels that correspond to each of the frequency bands based on the change table.

34. The vocoder system cited in Claim 7, wherein the setting means stores a formant change table that changes the formant non-uniformly and sets the modulation levels that correspond to each of the frequency bands based on the change table.

35. The vocoder system cited in Claim 8, wherein the setting means stores a formant change table that changes the formant non-uniformly and sets the modulation levels that correspond to each of the frequency bands based on the change table.

36. The vocoder system cited in Claim 9, wherein the setting means stores a formant change table that changes the formant non-uniformly and sets the modulation levels that correspond to each of the frequency bands based on the change table.

37. A method for generating a musical signal comprising:
detecting formant characteristics of a first musical tone signal;
inputting a second musical tone signal that corresponds to specified pitch information;
dividing the second musical tone signal into a plurality of frequency bands, the respective center frequencies of which have been fixed;
setting modulation levels corresponding to each of the frequency bands based on the formant characteristics and formant control information with which the formant characteristics detected by the formant detection means are changed; and
modulating a level of a signal of each of the frequency bands based on the modulation level set in a setting means.

38. A vocoder system comprising:
a formant detector for detecting formant characteristics of a first musical tone signal;
an input device for inputting a second musical tone signal that corresponds to specified pitch information;
a divider connected to the input device for dividing the second musical tone signal into a plurality of frequency bands, the respective center frequencies of which have been fixed;
a level setter for setting modulation levels corresponding to each of the frequency bands based on the formant characteristics and formant control information with which the formant characteristics detected by the formant detection means are changed; and
a modulator for modulating a level of a signal of each of the frequency bands based on the modulation level set in the level setter.

39. The vocoder system cited in Claim 1, wherein the formant detector comprises a filter.

40. The vocoder system cited in Claim 1, wherein the formant detector comprises a Fourier transform.